

A Response to the Office Action:

A. Status of the Claims

Claims 1-32 were pending upon the issuance of the Office Action dated September 25, 2003. Claims 1, 2, 9, 14, 21, 23 and 25 have been amended. Support for the amendments can be found throughout the specification and claims as originally filed. No new matter is added by the amendments. Claims 1-32, therefore, are currently pending.

B. The Enablement Rejection Is Overcome

The Action rejects claim 3 under 35 U.S.C. § 112, first paragraph, for lack of enablement. The Action contends that claim 3 is not commensurate in scope with an enabling disclosure. The Action also improperly requests that the named groups for “substituted,” as described in the specification, be recited in the claims. The Action apparently takes issue with the use of the word “substituted” in claim 3 by contending that there are no examples for “substituted” groups in the specification. From this, the Action reasons that “[i]t would require undue experimentation to determine all of the groups which are encompassed by ‘substituted’ and how to attach these groups to the claimed compound.” The Action, page 2.

Applicants traverse. Present claim 3 satisfies all requirements of 35 U.S.C. § 112, first paragraph.

Claim 3 presently recites:

Polymerizable composition according to claim 1, wherein Y⁻ is selected from the group consisting of thiocyanate, carboxylate, thiocarboxylate, RS⁻ wherein R is a substituted or non-substituted alkyl group or phenyl group, acetylacetonate, diketone, acetoacetic ester, malonic ester, cyanoacetic ester, and ketonitrile.

Claim 3. A person of ordinary skill in the art would understand the claim when read in light of the present specification. For example, it is well known that alkyl groups and phenyl groups can be substituted with any number of molecules. Substituting such groups is routine in the art and

can be done without undue experimentation. *See Manual of Patent Examining Procedure* (MPEP) § 2164.03 (8th ed. rev. no. 1, 2003) (noting that “[t]he amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art.”).

Applicants also note that the present specification discloses how to make and use the present invention. *See*, for example, the specification, page 15-19, examples 1-9. The present enablement rejection, therefore, cannot be maintained. *See* MPEP § 2164.04(b) (noting that “[a]s long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. § 112 is satisfied.”).

The rejection of claim 3 under 35 U.S.C. § 112, first paragraph, should be withdrawn.

C. The Indefiniteness Rejection Is Overcome

The Action rejects claims 1, 2, 9, 14, 21, 23, and 25 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. With respect to claim 1, for example, the Action contends that the claim is indefinite because the claim fails to provide a definition for Y.

Applicants traverse all of the indefiniteness rejections. Original claims 1, 2, 9, 14, 21, 23, and 25 satisfy all requirements of 35 U.S.C. § 112, second paragraph.

Applicants note, however, that in an effort to further the prosecution of this case and to obtain commercially relevant claims at this time, claims 2, 9, 14, 21, 23, and 25 have been amended at the suggestion of the Action. The rejection of these claims, therefore, is rendered moot.

With respect to claim 1, the Action is incorrect. Claim 1 defines Y as “an anion.” A person of ordinary skill in the art would understand what an anion is, either standing alone, or

when read in light of the present specification. The specification provides non-limiting examples of anions that can be used with the present invention. *See* the specification, page 5, lines 14-18, for example. Because the claim and specification are clear, the present indefiniteness rejection cannot be maintained. *See Credle v. Bond*, 25 F.3d. 1566, 1576 (Fed. Cir. 1994) (“If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, [section] 112 demands no more.”). Moreover, the “[b]readth of a claim is *not* to be equated with indefiniteness.” MPEP § 2173.04 (emphasis added). “If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph.” *Id.*

For at least these reasons, the present indefiniteness rejections cannot be maintained. The indefiniteness rejections of claims 1, 2, 9, 14, 21, 23, and 25 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

D. The Obviousness Rejection Is Overcome

1. A Summary of the Obviousness Rejection

The Action rejects claims 1-32 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,973,098 to Keita *et al.* in view of U.S. Patent No. 6,130,307 to Amagai *et al.* or EP 0942027 to Morijiri *et al.* The Action contends that Keita *et al.* discloses a polymerizable composition comprising an episulfide compound and one or more compounds having two or more functional groups capable of reacting with episulfide groups. The Action notes that Keita *et al.* suggests using an effective amount of a thiocyanate salt as part of the catalyst. From this, the Action reasons that this reference teaches using a co-catalyst with the thiocyanate salt.

Although indirectly admitting that Keita *et al.* fails to teach the use of a tertiary amine, the Action concludes that it would have been obvious to combine the tertiary amine disclosed in

Amagai *et al.* and Morijiri *et al.* with the teachings of Keita *et al.* The Action cites to no evidence, either extrinsic or intrinsic, to support such an assertion. Instead, the Action relies on its own statement that “the use of a mixture of two or more catalysts is a routine practice in the art absence showing otherwise.” The Action, page 5.

2. The Standard for Establishing A *Prima Facie* Case of Obviousness

It is well settled that “[t]he examiner bears the initial burden of factually supporting any *prima facie* case of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under **no** obligation to submit evidence of nonobviousness.” MPEP § 2142 (emphasis added). To establish a *prima facie* case of obviousness, the examiner must show: (1) some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) a reasonable expectation of success; and (3) the prior art reference teaches or suggests all of the claim limitations. MPEP § 2142; *see also In re Vaeck*, 947 F.2d 488, (Fed Cir. 1991). If any one of the three elements is missing, a *prima facie* case of obviousness cannot be maintained.

3. A Summary of the Invention

Applicants presently claim a “Polymerizable composition for making episulfide based resins comprising : A) at least one episulfide compound bearing at least one episulfide and at least one functional group capable of polymerizing with episulfide groups, and B) an effective amount of **a polymerization catalyst system** comprising ... **at least one salt** ... and ... **at least one tertiary amine**. Claim 1 (emphasis added). Claim 26 is directed towards a cast article and claim 28 is directed towards a process for making a cast episulfide.

As discussed below, the Action fails to present any evidence, much less the required evidence, to establish a *prima facie* case of obviousness. Further, there is no motivation to

combine the cited references, and there is no reasonable expectation of success that such a combination would work.

4. The Action has not Presented Any Evidence to Support the Obviousness Rejection

As an initial matter, the Action has not presented any evidence to support the present obviousness rejection. Despite the Action's unsubstantiated opinion that it would have been obvious to use the tertiary amine taught by Amagai *et al.* or Murijiri *et al.* in the composition of Keita *et al.*, the Action does not provide any basis to support such a contention. The Action cites to no passages in the cited references, no additional references, and no other evidence (either extrinsic or intrinsic) to support this proposition. Based on the lack of evidence alone, the present obviousness rejection must fall. *See* MPEP § 2142 ("The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under ***no obligation*** to submit evidence of nonobviousness") (emphasis added). If the Action is relying on personal knowledge or any reference to support a motivation to combine the cited references, Applicants must request that the Examiner prepare an affidavit and enter it into the file history of this application pursuant to 37 C.F.R. § 1.104(d)(2). *See also* MPEP § 2144.03(C).

Because of the lack of evidence presented by the Action, the obviousness rejection cannot be maintained.

5. A *Prima Facie* case of Obviousness has not Been Established by the Action

- i. There is no motivation to combine the teachings of Keita et al. with either Amagai et al. or Murijiri et al.*

A necessary requirement to establish a *prima facie* case of obviousness by the Action requires a showing of a motivation to combine the teachings of Keita *et al.* with the teachings of either Amagai *et al.* or Murijiri *et al.* to include a "a polymerization catalyst system comprising

... *at least one salt* ... and ... *at least one tertiary amine.*” Claim 1 (emphasis added). This has not been done by the Action.

In contrast to Applicants’ claimed invention, Keita discloses a polymerizable composition comprising “at least one episulfide compound ... and ... an effective amount of a thiocyanate salt as a polymerization catalyst.” Keita *et al.*, Abstract. In fact, Keita *et al.* notes that it is *preferred* to use a thiocyanate salt as “the *sole catalyst* in the polymerizable composition for making thio containing resins.” Keita *et al.*, column 2, lines 10-13 (emphasis added). This statement alone evidences that there is no motivation or suggestion to combine the teachings of the cited references. See MPEP § 2143.01 (“The mere fact that references can be combined or modified does not render the resultant combination obvious unless *the prior art also suggests the desirability of the combination.*” MPEP § 2143.01 (emphasis added)). This is further supported by referring to the examples section of Keita *et al.* All of the examples in this reference are directed towards the use of a thiocyanate salt as the “sole catalyst.” There is no suggestion or any data using Applicants’ claimed invention.

Applicants’ position is further supported by the teachings of Amagai *et al.* and Murijiri *et al.* These references also fail to suggest a desirability to combine their teachings with Keita *et al.* Amagai *et al.*, for example, does not teach or suggest the desirability of using “a polymerization catalyst system comprising ... at least one salt ... and ... at least one tertiary amine” to increase the polymerization rate of episulfides. Similarly, Murijiri *et al.* fails to teach or suggest Applicants’ claimed invention.

Because there is no suggestion in the cited reference or to a person of ordinary skill in the art to combine the teachings of Keita *et al.* with either Amagai *et al.* or Murijiri *et al.*, a necessary element in establishing a *prima facie* case of obviousness has not been established by

the Action. This is further buttressed by the fact that the primary reference relied upon by the Action, Keita *et al.*, teaches that it is preferable to use a thiocyanate salt as “*the sole catalyst*.”

The present obviousness rejection, therefore, cannot be maintained. Applicants request that the present obviousness rejection be withdrawn.

ii. *There is no reasonable expectation of success that the combination of the cited references would work*

Another necessary and independent element required to establish a *prima facie* case of obviousness requires a showing of a reasonable expectation of success that the combination of the teachings of Keita *et al.* with those of Amagai *et al.* or Murijiri *et al.* would work. This has not been done by the Action.

As discussed directly above, the data in Keita *et al.* relates to the use of a thiocyanate salt as “*the sole catalyst*.” See Keita *et al.*, columns 8-11. There are no data in Keita *et al.* showing or suggesting that “a polymerization catalyst system comprising ... at least one salt ... and ... at least one tertiary amine” would actually work.

Similar to Keita *et al.*, the secondary references appear to fail to present any data showing a reasonable expectation of success that Applicants’ claimed combination would work. Amagai *et al.*, for example, appears to present data relating to the use of a single catalyst—tetrabutylammonium bromide (TBAB). See Amagai *et al.*, col. 17, line 29, to col. 19, line 20. The same appears to be true for Murijiri *et al.*, which provides data showing the use of a single catalyst—N,N-dimethylcyclohexylamine (DCA). See page 11, lines 23-24; page 16, Table 3.

Because all of the cited references fail to present any data that shows there is a reasonable expectation of success that “a polymerization catalyst system comprising ... at least one salt ... and ... at least one tertiary amine” would actually work, a second element necessary for

establishing a *prima facie* case of obviousness has not been met. The present obviousness rejection, therefore, cannot be maintained.

The rejection of claims 1-32 under 35 U.S.C. § 103(a) as being rendered obvious over the cited references should be withdrawn in view of the above.

E. The Obviousness-Type Double Patenting Rejection Is Overcome

The Action rejects claims 1-32 under the judicially created doctrine of obviousness-type double patenting over the same references cited in the obviousness rejection above. Because of this, the double patenting rejection is overcome for the same reasons discussed in section D above which is incorporated by reference.

F. Conclusion

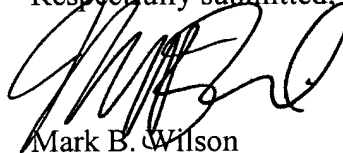
Applicants believe that the present document is a full and complete response to the Office Action dated September 25, 2003. In conclusion, Applicants submit that, in light of the foregoing remarks, the present case is in condition for allowance, and such favorable action is respectfully requested.

A Petition For A Three-Month Extension of Time:

Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of three month to and including March 25, 2004, in which to respond to the Office Action dated September 25, 2003. Pursuant to 37 C.F.R. § 1.17, a check in the amount of \$950.00 is enclosed, which is the process fee for a three-month extension of time for a large entity status. If the check is inadvertently omitted, or should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to the enclosed materials, or should an overpayment be included herein, the Commissioner is authorized to deduct or credit said fees from or to Fulbright & Jaworski Deposit Account No. 50-1212/ESSR:049US.

The Examiner is invited to contact the undersigned Attorney at (512) 536-3035 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



Mark B. Wilson
Reg. No. 37,259
Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P.
600 Congress Avenue, Suite 2400
Austin, Texas 78701
512.536.3035 (voice)
512.536.4598 (fax)

Date: March 24, 2004